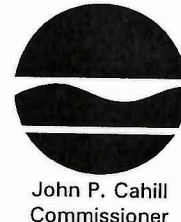


New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials
Bureau of Hazardous Waste Management, Room 448
50 Wolf Road, Albany, New York 12233-7251
Phone: (518) 457-9257 FAX: (518) 485-8769



December 18, 2000

Mr. Thomas G. Hardes
Environmental Manager
Cytec Olean Inc.
1405 Buffalo Street
Olean, NY 14760-1139

Dear Mr. Hardes:

Re: Biennial Update (BU)
Cytec Olean Inc.
EPA ID# NYD 096 297 544

Based on our review of your Biennial Update (BU) of the Hazardous Waste Reduction Plan, received on July 3, 2000, we find that your update, meets the requirements of Article 27, Section 0908 of the Environmental Conservation Law.

Please submit an Annual Status Report (ASR) as required by the law by July 1, 2001 on your progress achieving the time schedule in your update for implementing waste reduction measures identified. The Annual Status Report must include an update of Table 1 and Table 2, and must be submitted by July 1 for each year that a hazardous waste reduction plan biennial update is not submitted.

We encourage you to make pollution prevention an ongoing process, and to look for additional hazardous waste reduction technologies that can be implemented at your facility. The ongoing development and implementation of a waste training program for your facility personnel is an important ingredient for the continued success of your reduction program.

If you have any questions, please contact me at, (518) 485-8988.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard J. Kasprovicz". The signature is fluid and cursive, with the first name "Richard" and last name "Kasprovicz" clearly distinguishable.

Richard J. Kasprovicz, P.E.
Technical Determination Section
Bureau of Hazardous Waste Management
Division of Solid & Hazardous Materials

cc w/enc: J. Reidy, EPA Region II
Frank Shattuck Reg. 9

**New York State Department of Environmental Conservation
Hazardous Waste Reduction Plan/Biennial Update
Facility Summary Sheet**

Date: December 18, 2000

EPA ID#	NYD 096 297 544
Company Name	Cytec Olean Inc.
Address	1405 Buffalo Street
City	Olean
State	NY
Zipcode	14760-1139
Facility Contact	Mr. Thomas G. Hardes
Phone #	(716) 372-9650
SIC Code	2821
Region (NYS)	Nine (9)
Final HSWA Permit Effective Date	_____
Final NYS Part 373 Permit Effective Date	_____

Description of Original Process:

The facility produces resins. The major process steps used are: batch reactors, distillation solvent recovery and equipment cleanings.

Description of Waste Reduction Activity:

1. Substitute non-flammable solvent for tank cleaning (reduce degree of hazard).
2. Improve removal of raw materials and products from containers and equipment.
3. Eliminate small, infrequently made products. Intrinsic savings to process these small Orders and net reduction in wastes.
4. Improve production scheduling by manufacturing similar batch products back-to- back to reduce tank cleaning and product hang-up.
5. Investigating reuse of extracted excess materials from a process.
6. Investigating reformulation of a process to reduce mercury catalyst use. This project would reduce toxicity by mercury reduction.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
HAZARDOUS WASTE GENERATION SUMMARY

Revision Date: June 28, 2000

Company Name: CYTEC OLEAN INC

EPA ID Number: NYD 096 297 544

Table-1

Waste Stream ID Number	Name of WASTE	Source of Generation	Disposal Method	Quantity of Waste (in Pounds)					Production Index (% of F.G. Pounds)				
				1995	1996	1997	1998	1999	1995	1996	1997	1998	1999
(A)	Waste Code A	Batch Processing	Fuel Blending/ Incineration	5,464	6,263	5,139	5,946	7,686	0.08	0.09	0.09	0.11	0.16
(B)	Waste Code B	Batch Processing	Fuel Blending/ Incineration	14,739	13,805	3,837	0	0	0.22	0.2	0.06	0	0
(C)	Waste Code C	Batch Processing	Fuel Blending/ Incineration	19,740	18,224	28,181	27,355	30,499	0.3	0.27	0.47	0.52	0.65
(D)	Waste Code D	Batch Processing	Fuel Blending/ Incineration	1,620	580	606	1,306	1,876	0.02	0.01	0.01	0.02	0.04
(H)	Waste Code H	Batch Processing	Fuel Blending/ Incineration	4,132	2,536	5,775	2,969	5,780	0.06	0.04	0.1	0.06	0.12
(O)	Waste Code O	Vacuum Pump Maintenance	Fuel Blending/ Incineration	17,644	19,501	16,462	12,983	13,331	0.27	0.28	0.27	0.25	0.29
(P)	Waste Code P	Still Bottoms Solvent Recovery	Fuel Blending/ Incineration	12,550	11,971	7,457	6,787	7,395	0.19	0.17	0.12	0.13	0.16
(S)	Waste Code S	Still Bottoms Solvent Recovery	Fuel Blending/ Incineration	8,546	12,546	12,175	15,702	19,131	0.13	0.18	0.2	0.3	0.41
S-7	Spent MEK	Tank Cleaning	In-house Still	32,270	0	0	0	0	0.5	0	0	0	0
S-6	Spt Acetone	Tank Cleaning	In-house Still	0	0	14268	19501	26178	0	0	0.23	.37	0.56
S-25	Spent NMP	Tank Cleaning	In-house Still	78,247	57,688	53,466	49,956	73732	1.18	0.84	0.89	0.94	1.58
TOTALS:				194,952	143,114	147,366	142,505	185,608	2.95	2.08	2.44	2.70	3.97

New York State Department Of Environmental Conservation
HAZARDOUS WASTE GENERATION SUMMARY

Revision Date: June 28, 2000

Company Name: CYTEC OLEAN INC

EPA ID Number: NYD 096 297 544

Table-2

Waste Stream ID Number	Name of Waste	Waste Stream Effected	Reduction Plans / Projects	Estimated Waste Reduction (Tons)	Method Used to Calculate (ROI)	Estimated (ROI)	Goal Date	Comments
(A)	Waste Code A	General Processing 1) Flammable or Combustible Waste	1) Improve removal of raw materials and products from containers and equipment.	0.10	Direct Cost Indirect Cost Intangible Cost	None	Jan 98	Benefits are on-going from this project, with continued savings in 1999.
(A)	Waste Code A	General Processing 1) Flammable or Combustible Waste	2) Separate Quality Assurance solvents for disposal.	0.09	Direct Cost	0.9 yr.	Jun 97	Implemented June 1997. Estimated Reduction 0.09 tons per year through 1999.
(A)	Waste Code A	General Processing 1) Flammable or Combustible Waste	3) Review the reduction of container size used for laboratory equipment cleaning. Reviewed project. Kept same container and reduced solvent quantity being used.	0.04	Direct Cost	5.3 yr.	Jun 97	Implemented June 1997. Estimated reduction was .02 tons- reviewed June, 1999, and savings are much lower than expected. No longer considered economically feasible.
(A)	Waste Code A	General Processing (1) Flammable or Combustible Waste	4) New: Substitute non-flammable solvent for some tank cleaning (reduce degree of hazard)	*	*	None	Jan 01	*This is a new and interesting idea, which will reduce an ignitable (WC-A) waste, shifting to a less hazardous waste (WC-P). Although not a reduction in total waste pounds, we feel the reduced hazard in the workplace and in our wastes is important. Technical feasibility is unknown, pending pilot and engineering work.

Waste Stream ID Number	Name of Waste	Waste Stream Effected	Reduction Plans / Projects	Estimated Waste Reduction (Tons)	Method Used to Calculate (ROI)	Estimated (ROI)	Goal Date	Comments
(A)	Waste Code A	General Processing (1) Flammable or Combustible Waste	5) New: Prune small, infrequently made products	0.05	Direct Cost	None	Sep 00	This project will trade waste for sales dollars, no net economic benefit. Intrinsic savings to process these small orders and net reduction in wastes make this attractive.
(B)	Waste Code B	General Processing 1) Prepolymer Material containing Isocyanates & Epoxy Resins	1) Improve removal of raw materials and products from containers and equipment.	0.11	Direct Cost	2.1 yr.	Jan. 98	Reclassified as non-Hazardous. Savings continue.
(B)	Waste Code B	General Processing 1) Prepolymer Material containing Isocyanates & Epoxy Resins	2) Improve SMOG Inventory Control.	0.21	Direct Cost	3.08 yr.	Jan. 99	Reclassified as non-Hazardous waste.
(B)	Waste Code B	General Processing 1) Prepolymer Material containing Isocyanates	1) Add processing samples back to batch.	0.09	Direct Cost	3.20 yr.	Jan. 97	Reclassified as non-Hazardous. Lost business, unable to implement.
(B)	Waste Code B	General Processing 1) Prepolymer materials containing isocyanates and epoxyresins.	3) Dock-to-Stock plan will reduce number of raw material samples.	.07	Direct Cost	1.86 yr.	Jun 98	Reclassified as non-hazardous. This successful project has saved 0.55 Tons (for WC's (C)(B)(H)) versus predicted 0.245 Ton waste/year, and generated 500 hours saved lab test time (\$10,000)/year, by eliminating 1106 samples to test and dispose in 1999.
(C)	Waste Code C	General Processing 1) Polyurethane & Epoxy Curing Agents	1) Allow more time for vessels to drain.	0.10	Direct Cost	1.00 mo.	Jun 97	Successful, on-going savings. Soft Business and increasing number of smaller batches offset the gains in 1999.
(C)	Waste Code C	General Processing 1) Polyurethane & Epoxy Curing Agents	2) Manufacture similar batch products back-to-back to reduce tank cleaning and product hang-up.	0.10	Direct Cost	1.3 mo.	Jun 97	Compatibles List developed and in use. Savings on-going. However, increasing numbers of smaller batches offset savings.

Waste Stream ID Number	Name of Waste	Waste Stream Effected	Reduction Plans / Projects	Estimated Waste Reduction (Tons)	Method Used to Calculate (ROI)	Estimated (ROI)	Goal Date	Comments
(C)	Waste Code C	General Processing 1) Polyurethane & Epoxy Curing Agents	3) Rework large Quality Assurance retain samples.	0.07	Direct Cost	2.5 mo.	Jan 97	Lost Business. Unable to implement.
(C)	Waste Code C	General Processing 1) Polyurethane & Epoxy curing agents	4) Dock-to-Stock plan will reduce the number of raw material samples.	.15	Direct Cost	2.85 yr.	Jun 98	This successful project has saved 0.55 Tons (for WC's (C)(B)(H)) versus predicted 0.245 Ton waste/year, and generated 500 hours saved lab test time (\$10,000)/year, by eliminating 1106 samples to test and dispose in 1999.
(C)	Waste Code C	General Processing 1) Polyurethane & Epoxy Curing Agents	5) Reuse extracted excess raw materials from a process.	0.40	Direct Cost	Immed.	Jan 97	CYTEC OLEAN continues to work with vendor on out-sourcing...as yet not successful. No reduction achieved in 1998 or 1999.
(C)	Waste Code C	General Processing 1) Polyurethane and Epoxy Curing Agents	6) Make bigger, fewer batches of select products by coordinating orders and increasing inventory	0.25	Direct Cost	2 mo.	Jul 00	This idea selectively reverses trend to smaller batches, reducing clean-outs and waste. Increased inventory and coordinating costs. Technically/economically feasible.
(C)	Waste Code C	General Processing 1) Polyurethane and Epoxy Curing Agents	7) Sell entire yield from selected batches, avoiding later scrap of partial containers	0.5	Direct Cost	1.4 yr.	Sep 00	Most batches yield incremental additional material. This idea would have select customers agree to take the extra material, eliminating later rework or scrap. Technically feasible.
(C)	Waste Code C	General Processing 1) Polyurethane and Epoxy Curing Agents	8) Prune small, infrequently made products.	0.15	Direct Cost	NA	Sep 00	This project will trade waste for sales dollars, no net economic benefit. Intrinsic savings to process these small orders and net reduction in wastes make this attractive.
(C)	Waste Code C	General Processing 1) Polyurethane and Epoxy Curing Agents	9) Evaluate shelf-life to extend useful life, reduce rework/scrap	0.15	Direct Cost	1.2 yr.	Sep 00	The technical feasibility of this project is unknown. If determined to be feasible, savings will quickly repay cost of investigating.

Waste Stream ID Number	Name of Waste	Waste Stream Effected	Reduction Plans / Projects	Estimated Waste Reduction (Tons)	Method Used to Calculate (ROI)	Estimated (ROI)	Goal Date	Comments
(C)	Waste Code C	General Processing 1) Polyurethane and Epoxy Curing Agents	10) Evaluate potential for eliminating select intermediates, reducing tank hang-up, clean-out wastes	0.08	Direct Cost	8 mo.	Jan 01	The technical feasibility of this project is unknown. If determined to be feasible, savings will quickly repay cost of investigating.
(D)	Waste Code D	General Processing 1) Waste Solvent from equipment cleaning	1) Change from a final rinse of the molds to a wiping process.	0.07	Direct Cost	1.5 mo.	Sep 97	Plan implemented in late 1997, with 0.07 ton reduction achieved in 1998 and 1999. Savings continue. Due to combined wastes, waste code shows an increase.
(H)	Waste Code H	General Processing 1) Waste catalyzing agents containing metals	1) Allow more time for product draining.	0.05	Direct Cost	None	Jan 98	Project successful and on-going. Sales increase for the process generating this stream none-the-less resulted in an increased generation. This followed a year of reduced sales in 1998.
(H)	Waste Code H	General Processing 1) Waste catalyzing agents containing metals	1) Manufacture similar batch products back-to-back to reduce tank cleaning and product hang-up.	0.05	Direct Cost	6.0 mo.	Jun 97	Compatibles list in use, with 0.05 T/yr. Savings. Savings offset by increased sales.
(H)	Waste Code H	General Processing 1) Waste catalyzing agents containing metals	2) Dock-to-Stock plan reduce number of raw material samples	0.025	Direct Cost	11 yr.	Jun 98	This successful project has saved 0.55 Tons (for WC's (C)(B)(H)) versus predicted 0.245 Ton waste/year, and generated 500 hours saved lab test time (\$10,000)/year, by eliminating 1106 samples to test and dispose in 1999.
(H)	Waste Code H	General Processing 1) Waste catalyzing agents containing metals	3) Reformulate to reduce mercury catalyst use. [past efforts failed to find acceptable alternatives, but new approaches suggest better alternatives may result from on-going developmental work]	None	No ROI	None	Sep 99	This project would not reduce total waste, but, would reduce toxicity by Hg reduction. Technical feasibility has yet to be determined. No ROI, but, significant improvement in in-house and customer industrial hygiene and disposal issues make this attractive. Lab work well underway.

Waste Stream ID Number	Name of Waste	Waste Stream Effected	Reduction Plans / Projects	Estimated Waste Reduction (Tons)	Method Used to Calculate (ROI)	Estimated (ROI)	Goal Date	Comments
(O)	Waste Code O	General Processing 1) Waste Oil from the maintenance of vacuum pumps	1) Segregate spent non-hazardous oil from spent Hazardous oil.	1.00	Direct Cost	3.0 mo.	Mar 97	CYTEC OLEAN was unable to implement this project. See third Oil project below for explanation of reduction. Not technically feasible.
(O)	Waste Code O	General Processing 1) Waste oil from the maintenance of vacuum pump.	2) Reclassify oil as non-hazardous by strict control to prevent cross contamination with hazardous materials.	4.0	Direct Cost	3.1 mo.	Sep 98	CYTEC OLEAN was unable to implement this project, due to failed Leachate testing. To responsibly meet RCRA requirements, we continue to dispose as hazardous waste. Not technically feasible at present.
(O)	Waste Code O	General Processing 1) Waste oil from the maintenance of vacuum pumps	3) Reduce the amount of oil used per oil change.	1.0	Direct Cost	<1 mo.	Sep 97	After 1998 reduction, a product quality decision called for more frequent oil changes...no longer technically feasible.
(P)	Waste Code P	General Processing 1) Still bottoms from recycling of spent acetone cleaning processes	1) Manufacture similar batch products back-to-back to reduce tank cleaning and material hang-up.	0.35	Direct Cost	6.0 mo.	Jun 97	Compatibles List in use...savings on-going. However, more frequent clean-outs, more stringent quality standards have offset savings.
(P)	Waste Code P	General Processing 1) Still bottoms from recycling of spent acetone cleaning processes	2)) Evaluate potential for eliminating select intermediates, reducing tank hang-up, clean-out wastes	0.8	Direct Cost	6.0 mo.	Sep 00	The technical feasibility of this project is unknown. If determined to be feasible, savings will quickly repay cost of investigating.
(S)	Waste Code S	General Processing 1) Still Bottoms from recycling of spent Methyl Pyrrolidone from cleaning processes	1) Manufacture similar batch products back-to-back to reduce tank cleaning and material hang-up.	0.10	Direct Cost	3.0 mo.	Jun 97	Compatibles List in use...savings on-going. However, more frequent clean-outs, more stringent quality standards have significantly offset savings (57% increase in this waste).

Waste Stream ID Number	Name of Waste	Waste Stream Effected	Reduction Plans / Projects	Estimated Waste Reduction (Tons)	Method Used to Calculate (ROI)	Estimated (ROI)	Goal Date	Comments
		General Processing	2) Evaluate potential for					The technical feasibility of this

Waste Stream ID Number	Name of Waste	Waste Stream Effected	Reduction Plans / Projects	Estimated Waste Reduction (Tons)	Method Used to Calculate (ROI)	Estimated (ROI)	Goal Date	Comments
(C)	Waste Code C	General Processing 1) Polyurethane and Epoxy Curing Agents	10) Evaluate potential for eliminating select intermediates, reducing tank hang-up, clean-out wastes	0.08	Direct Cost	8 mo.	Jan 01	The technical feasibility of this project is unknown. If determined to be feasible, savings will quickly repay cost of investigating.
(D)	Waste Code D	General Processing 1) Waste Solvent from equipment cleaning	1) Change from a final rinse of the molds to a wiping process.	0.07	Direct Cost	1.5 mo.	Sep 97	Plan implemented in late 1997, with 0.07 ton reduction achieved in 1998 and 1999. Savings continue. Due to combined wastes, waste code shows an increase.
(H)	Waste Code H	General Processing 1) Waste catalyzing agents containing metals	1) Allow more time for product draining.	0.05	Direct Cost	None	Jan 98	Project successful and on-going. Sales increase for the process generating this stream none-the-less resulted in an increased generation. This followed a year of reduced sales in 1998.
(H)	Waste Code H	General Processing 1) Waste catalyzing agents containing metals	1) Manufacture similar batch products back-to-back to reduce tank cleaning and product hang-up.	0.05	Direct Cost	6.0 mo.	Jun 97	Compatibles list in use, with 0.05 T/yr. Savings. Savings offset by increased sales.
(H)	Waste Code H	General Processing 1) Waste catalyzing agents containing metals	2) Dock-to-Stock plan reduce number of raw material samples	0.025	Direct Cost	11 yr.	Jun 98	This successful project has saved 0.55 Tons (for WC's (C)(B)(H)) versus predicted 0.245 Ton waste/year, and generated 500 hours saved lab test time (\$10,000)/year, by eliminating 1106 samples to test and dispose in 1999.
		General Processing 1) Waste catalyzing agents	3) Reformulate to reduce mercury catalyst use. [past efforts failed to find					This project would not reduce total waste, but, would reduce toxicity by Hg reduction

Waste Stream ID Number	Name of Waste	Waste Stream Effected	Reduction Plans / Projects	Estimated Waste Reduction (Tons)	Method Used to Calculate (ROI)	Estimated (ROI)	Goal Date	Comments
(S)	Waste Code S	General Processing 1) Still Bottoms from recycling of spent Methyl Pyrrolidone from cleaning processes	2) Evaluate potential for eliminating select intermediates, reducing tank hang-up, clean-out wastes	0.05	Direct Cost	6.0 mo.	Jun 97	The technical feasibility of this project is unknown. If determined to be feasible, savings will quickly repay cost of investigating.